



Dengue Fever Frequently Asked Questions: USING REPELLENTS SAFELY

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CAUTION: *Always read the entire label before you use insect repellent and apply exactly as the label directs.*

Why should I use insect repellent?

Insect repellents can help reduce exposure to mosquito bites that may carry viruses, such as dengue fever or West Nile virus, which can cause serious illness and even death. Using insect repellent allows you to continue to play and work outdoors with a reduced risk of mosquito bites.

When should I use mosquito repellent?

Apply repellent when you are going to be outdoors. Even if you don't notice mosquitoes, there is a good chance that they are around.

How often should repellent be reapplied?

In general you should re-apply repellent if you are being bitten by mosquitoes. Always follow the directions on the product you are using. Sweating, swimming, or otherwise getting wet may mean that you need to re-apply repellent more frequently. Repellents containing a higher concentration (higher percentage) of active ingredient typically provide longer-lasting protection.

Which mosquito repellents work best?

CDC recommends using products that have been shown to work in scientific trials and that contain active ingredients which have been registered with the [US Environmental Protection Agency \(EPA\)](http://www2.epa.gov/insect-repellents/using-insect-repellents-safely-and-effectively) at <http://www2.epa.gov/insect-repellents/using-insect-repellents-safely-and-effectively> for use as insect repellents on skin or clothing.

Of the active ingredients registered with the EPA, CDC believes that two have demonstrated a higher degree of efficacy in the peer-reviewed, scientific literature. Products containing these active ingredients typically provide longer-lasting protection than others:

- DEET (N,N-diethyl-m-toluamide)
- Picaridin (KBR 3023)

Oil of lemon eucalyptus [active ingredient: p-menthane 3,8-diol (PMD)], a plant-based repellent, is also registered with EPA. In two recent scientific publications, when oil of lemon eucalyptus was tested against mosquitoes found in the U.S., it provided protection similar to repellents with low concentrations of DEET.

What are some general considerations to remember when using insect repellents?

Always follow the recommendations appearing on the product label.

- Use enough repellent to cover exposed skin or clothing. Don't apply repellent to skin that is under clothing. Heavy application is not necessary to achieve protection.
- Do not apply repellent to cuts, wounds, or irritated skin.
- After returning indoors, wash treated skin with soap and water. (This may vary depending on the product. Check the label.)
- Do not spray aerosol or pump products in enclosed areas.
- Do not spray aerosol or pump products directly to your face. Spray your hands and then rub them carefully over the face, avoiding eyes and mouth.

What are guidelines for using a repellent on children?

Always follow the recommendations appearing on the product label when using repellent:

- Repellents containing DEET should not be used on infants less than 2 months old, and certain other repellants may not be appropriate for young children (e.g. oil of lemon eucalyptus should not be used with children less than age 3 years).
- When using repellent on a child, apply it to your own hands and then rub them on your child. Avoid children's eyes and mouth and use it sparingly around their ears. After returning indoors, wash treated skin with soap and water.
- Do not apply repellent to children's hands. (Children may tend to put their hands in their mouths.)
- Do not allow young children to apply insect repellent on themselves; have an adult do it for them.
- Keep repellents out of reach of children.
- Do not apply repellent under clothing. If repellent is applied to clothing, wash treated clothing before wearing again. (This recommendation may vary by product; check label for specific instructions)
- Follow product instructions – using more won't give you extra protection but may increase risk

Can insect repellents be used by pregnant or nursing women?

Other than the routine precautions noted earlier, EPA does not recommend any additional precautions for using registered repellents on pregnant or lactating women. Consult your health care provider if you have questions.

What are some reactions to be aware of when using insect repellents?

Use of repellents products may cause skin reactions in rare cases. Most products also note that eye irritation can occur if product gets in the eye. If you suspect a reaction to a product, you should discontinue use, wash the treated skin, and call a poison control center. If product gets in the eyes, flush with water and consult your health care provider or poison control center. If you go to a doctor, take the product with you. There is a national number to reach a Poison Control Center near you: 1-800-222-1222.

Where can I get more information about repellents?

For more information about using repellents, please consult the [Environmental Protection Agency \(EPA\)](http://www2.epa.gov/insect-repellents/using-insect-repellents-safely-and-effectively) at: <http://www2.epa.gov/insect-repellents/using-insect-repellents-safely-and-effectively> or consult the National Pesticide Information Center (NPIC), which is cooperatively sponsored by Oregon State University and the U.S. EPA. NPIC can be reached at: npic.orst.edu or 1-800-858-7378. For information on proper pesticide use, visit the Hawaii Department of Agriculture at: <http://hdoa.hawaii.gov/pi/pest/faq-for-pesticides>.

For more information and answers to Frequently Asked Questions (FAQs) about dengue fever, mosquitoes, and the Hawaii island outbreak, please see additional FAQs at <http://health.hawaii.gov/docd/dengue-outbreak-2015/>